

## Message Text

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DEPT PLEASE PASS HUD

EO 11652: NA

TAGS: TGEN TPHY ENRG ECRE UR US

SUBJECT: MEDIEVAL TADZHIK CONSTRUCTION TECHNIQUE SUGGESTED FOR  
NUCLEAR REACTORS

REF: STATE 121124,

1. DURING SCI COUNS' AUGUST 20 VISIT TO INSTITUTE OF SEISMIC  
RESISTANCE CONSTRUCTION AND SEISMOLOGY (SEPTEL) IN DUSHANBE, ITS  
DIRECTOR, CORRESPONDING MEMBER OF TADZHIK ACADEMY OF SCIENCES OF  
SOBIT, NEGMATULLAYEV, MENTIONED THAT FIVE CENTURIES AGO LOCAL  
BUILDERS INVENTED UNCONVENTIONAL EARTHQUAKE-PROOF METHOD OF  
CONSTRUCTING LARGE BUILDINGS.

2. METHOD WAS DISCOVERED BY NEGMATUALLYEV WHEN HE CARRIED OUT  
EXCAVATIONS TO INVESTIGATE THE FOUNDATION OF A CENTURY-OLD MAUSOLEUM  
LOCATED ON THE BORDER BETWEEN TADZHIKISTAN AND UZBEKISTAN.  
NEGMATUALLYEV FOUND THAT VERY MASSIVE FOUNDATION (CENTER OF GRAVITY  
OF CONSTRUCTION AT OR BELOW GROUND LEVEL) IS FLOATING IN LAYER OF  
SOFT CLAY THAT FILLS CAVITY DUG IN HARD ROCK. THIS PERMITS WHOLE  
BUILDING TO MOVE WITHOUT STRAIN AND THUS AVOID DESTRUCTION  
DURING QUAKE.

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EM THE ABOVE CONSTRUCTION METHOD NOT ONLY PROT KTED FOR

CENTURIES THE MAUSOLEUM STRUCTURE FROM EARTHQUAKE DAMAGE BUT, UNLIKE OTHER BUILDINGS IN THE AREA, PRESERVED ITS UP-RIGHT POSITION.

4. NEGMATULLAYEV SUGGESTED THAT THIS MEDIEVAL CONSTRUCTION METHOD, WHICH WITHSTOOD TEST OF TIME, SHOULD BE CONSIDERED FOR ERECTION OF NUCLEAR REACTORS IN AREAS OF HIGH SEISMICITY. HE STRESSED THAT METHOD APPEARS TO GO CONTRARY TO STANDARD BUILDING PRACTICES. HE ADDED THAT EXPERIENCE AND SUCCESS OF MEDIEVAL BUILDERS SHOULD BE TAKEN INTO CONSIDERATION WHEN DESIGNING NUCLEAR REACTORS FOR REGIONS OF HIGH EARTHQUAKE RISK. SHAPE AND SIZE OF REACTORS LEND THEMSELVES TO DESIGNS AND CONSTRUCTIONS SIMILAR TO THE OLD MAUSOLEUM. NEGMATULLAYEV STATED THAT DR. LEISMER, A US SCIENTIST, WAS VERY INTERESTED IN HIS IDEA FOR NUCLEAR REACTOR CONSTRUCTION.

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